Claim Amendments

This listing of claims will replace all prior versions, and listings, of claims of the application.

Listing of Claims

Claims 1-23 (Canceled).

Claim 24 (Previously Presented): A polymer mixture, comprising:

a) a polymer matrix which consists essentially of:

i) a (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C; or

ii) a mixture of (meth)acrylate (co)polymers with a Vicat softening point (ISO 306-B50) of at least 104° C; or

iii) a (meth)acrylimide (co)polymer; or

iv) mixtures of a (meth)acrylimide (co)polymer (iii) with (i) or (ii);

b) an impact modifier which is based on crosslinked poly(meth)acrylates and which is not covalently bonded to the polymer matrix a);

c) from 1 to 15 % by weight of plastics particles composed of crosslinked polymers based on polymethyl methacrylate, on polystyrene and/or on polysilicones, with a median particle size in the range from 1 to 30 μm,

wherein a), b) and c) give a total of 100 % by weight, and

wherein the polymer mixture may also comprise conventional additives, auxiliaries and/or fillers, and a test specimen injection-moulded from the polymer mixture simultaneously has the following properties:

a roughness value R_z to DIN 4768 of at least 0.7 μm;

a gloss (R 60°) to DIN 67530 of at most 40; and

a Vicat softening point (ISO 306-B50) of at least 90° C.

Claim 25 (Previously Presented): The polymer mixture according to Claim 24, wherein the components are present with the following quantitative proportions:

a) from 25 to 75 % by weight;

b) from 5 to 60 % by weight; and

c) from 1 to 15 % by weight.

Claim 26 (Previously Presented): The polymer mixture according to Claim 24, wherein the impact modifier b) has a two- or three-shell structure.

Claim 27 (Previously Presented): A polymer mixture according to Claim 24, wherein the polymer matrix a) consists essentially of a (meth)acrylate (co)polymer composed of 96 to 100 % by weight of methyl methacrylate and 0 to 4 % by weight of methyl acrylate, ethyl acrylate and/or butyl acrylate.

Claim 28 (Previously Presented): The polymer mixture according to Claim 24, wherein the polymer matrix a) is a copolymer consists essentially of methyl methacrylate, styrene and maleic anhydride.

Claim 29 (Previously Presented): The polymer mixture according to Claim 28, wherein the polymer matrix a) is a copolymer consisting essentially of:

from 50 to 90 % by weight of methyl methacrylate;

from 10 to 20 % by weight of styrene; and

from 5 to 15 % by weight of maleic anhydride.

Claim 30 (Currently Amended): The polymer mixture according to Claim 24, wherein the constituents polymer matrix material a) and impact modifier material b) of the polymer mixture are introduced individually or in the form of a compounded material into the polymer mixture, wherein the polymer matrix material a) is one or more of the following poly(meth)acrylate components d), f) and g) and that impact modifier b) is impact modifier e):

d) a low-molecular-weight (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C, characterized by a solution viscosity in chloroform at 25° C (ISO 1628 – Part 6) smaller than or equal to 55 ml/g;

e) an impact modifier based on crosslinked poly(meth)acrylates;

f) a relatively high-molecular-weight (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C[[;]], characterized by a solution viscosity in chloroform at 25° C (ISO 1628 – Part 6) smaller than or equal to 65 ml/g; and/or

g) a (meth)acrylate (co)polymer other than d) with a Vicat softening point (ISO 306-B50) of at least 104° C, characterized by a solution viscosity in chloroform at 25° C (ISO 1628 – Part 6) of 50 to 55 ml/g;

wherein each of the components d), e), f) and/or g) may be an individual polymer or else a mixture of polymers,

wherein d), e), f) and/or g) give a total of 100 % by weight;

wherein the polymer mixture optionally comprises conventional additives, auxiliaries and/or fillers; and

wherein a test specimen produced from the polymer mixture of components d), e), f) and/or g) simultaneously has the following properties:

a tensile modulus (ISO 527) of at least 2600 MPa;

a Vicat softening point (ISO 306-B50) of at least 109° C;

an impact strength (ISO 179-2D, flatwise) of at least 17 kJ/m^2; and

a melt index (ISO 1133, 230° C/3.8 kg) of at least 1.5 $cm^3/10$ min.

Claim 31 (Previously Presented): The polymer mixture according to Claim 30, wherein the components are present with the following quantitative proportions and give a total of 100 % by weight:

d) from 25 to 75 % by weight;

e) from 10 to 60 % by weight;

f) and/or g) from 10 to 50 % by weight.

Claim 32. (Previously Presented): The polymer mixture according to Claim 30, wherein component d) is a copolymer composed of methyl methacrylate, styrene and maleic anhydride.

Claim 33. (Previously Presented): The polymer mixture according to Claim 32, wherein component d) is a copolymer composed of:

50 to 90 % by weight of methyl methacrylate;

10 to 20 % by weight of styrene; and

5 to 15 % by weight of maleic anhydride.

Claim 34. (Previously Presented): The polymer mixture according to Claim 30, wherein component e) has a two- or three-shell structure.

Claim 35. (Previously Presented): The polymer mixture according to Claim 30, wherein component f) is a copolymer composed of methyl methacrylate, styrene and maleic anhydride.

Claim 36. (Previously Presented) The polymer mixture according to Claim 35, wherein component f) is a copolymer composed of:

50 to 90 % by weight of methyl methacrylate;

10 to 20 % by weight of styrene; and

5 to 15 % by weight of maleic anhydride.

Claim 37 (Previously Presented): The polymer mixture according to Claim 30, wherein component g) is a homopolymer or copolymer composed of at least 80 % by weight of methyl methacrylate and, optionally, up to 20 % by weight of other monomers copolymerizable with methyl methacrylate.

Claim 38 (Previously Presented): The polymer mixture according to Claim 37, wherein component g) is a copolymer composed of 95 to 99.5 % by weight of methyl methacrylate and 0.5 to 5 % by weight of methyl acrylate, ethyl acrylate and/or butyl acrylate.

Claim 39 (Previously Presented): The polymer mixture according to Claim 24, wherein a lubricant is present as an auxiliary.

Claim 40 (Previously Presented): The polymer mixture according to Claim 38, wherein stearyl alcohol is present as a mould-release agent.

Claim 41 (Previously Presented): The polymer mixture according to Claim 24, wherein the polymer mixture takes the form of a pelletized moulding composition.

Claim 42 (Previously Presented): A process for producing an injection moulded article, which comprises:

injection molding the polymer mixture according to Claim 24 into the shape of an object.

Claim 43 (Previously Presented): An injection moulded article as prepared by the process according to Claim 42.

Claim 44 (Previously Presented): The injection moulding according to Claim 42, wherein the injection moulded article has a roughness value Rz to DIN 4768 of at least 0.7 μm, a gloss (R 60°) to DIN 67530 of at most 40 and a Vicat softening point (ISO 306-B50) of at least 90° C.

Claim 45 (Previously Presented): The injection moulded article according to Claim 42, wherein the injection moulded article has one or more of the following properties:

a tensile modulus (ISO 527) of at least 2600 MPa;

a Vicat softening point (ISO 306-B50) of at least 108° C;

an impact strength (ISO 179-2D, flatwise) of at least 10 kJ/m^2; and

a melt index (ISO 1133, 230°C/3.8 kg) of at least 0.5 $cm^3/10$ min.

Claim 46 (Previously Presented): The injection moulded article according to Claim 42, wherein the injection moulded article is a part of a household appliance, communication

device, device for hobbies or sports, or a bodywork part or a part of bodywork parts in the construction of automobiles, ships or aircraft.

Claim 47 (Previously Presented): A polymer mixture, consisting essentially of:

a) a polymer matrix which is composed of:

i) a (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C; or

ii) a mixture of (meth)acrylate (co)polymers with a Vicat softening point (ISO 306-B50) of at least 104° C; or

iii) a (meth)acrylimide (co)polymer; or

iv) mixtures of a (meth)acrylimide (co)polymer (iii) with (i) or (ii);

b) an impact modifier which is based on crosslinked poly(meth)acrylates and which does not have covalent bonding to the polymer matrix a);

c) from 1 to 15 % by weight of plastics particles composed of crosslinked polymers based on polymethyl methacrylate, on polystyrene and/or on polysilicones, with a median particle size in the range from 1 to 30 μm,

wherein a), b) and c) give a total of 100 % by weight, and

wherein the polymer mixture may also comprise conventional additives, auxiliaries and/or fillers, and a test specimen injection-moulded from the polymer mixture simultaneously has the following properties:

a roughness value R_z to DIN 4768 of at least 0.7 μm;

a gloss (R 60°) to DIN 67530 of at most 40; and

a Vicat softening point (ISO 306-B50) of at least 90° C.